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Essentials of Psychology

BY

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TO MY TEACHERS IN PHILOSOPHY

PREFACE

THIS publication is the outcome of a course of lectures the author happened to deliver to a University Class on Psychology. Limitations of time obliged the author to confine himself to a discussion only of the fundamental principles. This is why some details which generally find a place in a systematic exposition of Psychology do not appear here. The work is an attempt to present in a simple and clear way the essential principles of Psychology. If it serves this purpose, and enables the student to acquire an interest in the subject, the author's trouble will be more than repaid.

The author has great pleasure in acknowledging his indebtedness to the writings of Professors Ward, Stout, and James.

S. R.

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LECTURE I

INTRODUCTION

Definition. Psychology, literally, means the science of the soul (*psyche*, *logos*). Is this a satisfactory definition of psychology? Is it settled that the soul exists? Metaphysicians are not unanimous on this point. Therefore to define psychology as the science of soul would be dogmatically to associate ourselves with a onesided answer to a question which is still in the stages of discussion. But will it be sufficient if we substitute 'mind' for 'soul'? Even this will not do. Mind implies a unity underlying the different mental states. The question of this unity is a psychological problem. It is at the end of our subject that we should be able to establish this kind of mental unity, and we have no right to assume it at the start. After all, this unity is a characteristic of normal minds, but in psychology we have to do with abnormal minds also. Besides, to define psychology as the science of mind suggests the pernicious dualism of mind and matter. Will it do to define psychology as the science of consciousness? Does consciousness cover the whole of mental life? The definition precludes from its scope the unconscious and physiological factors which have so much to do with our mental life. Psychology studies conscious states, and also indicates the several conditions which bring about conscious states; i.e. psychology must not only describe, but also explain conscious phenomena. Explanation includes the discovery of the conditions which lead to the occurrence of conscious states, nervous phenomena, and mental dispositions. The definition of psychology as the science of introspection labours under just the same difficulty, seeing that we can introspect only our conscious states. Phenomena beyond con-

sciousness are not open to introspection, and as such are excluded from the scope of psychology by this definition. The best way of defining psychology, therefore, is to call it the science which describes and explains mental phenomena, or the science which treats of mental states, their objects, and the conditions of their rise.

Standpoint. Professor Ward states in his article on psychology [1] that the subject can best be defined by its standpoint. The several physical sciences are objective in their nature in the sense that the objects of their investigation are open to the scrutiny and inquiry of all. They are, in a sense, public property; but mental states, the subject-matter of psychology, are open only to the view of the individuals concerned. *A* can know directly only his own mental states, and not those of his friend *B*. A conscious state is a part of an individual's consciousness. It belongs to a self and *a* self alone. It is an item in a stream of thought which is the individual's own possession; or, as Locke puts it, 'The scene of ideas making up one man's thoughts cannot be laid open to the immediate view of another.' In this sense, psychology is said to be 'individualistic' in its nature.

In another sense, the scope of psychology is, indirectly, universal. In a way it has to do with all experience. In this sense 'the whole choir of heaven and furniture of earth', in so far as they are presentations to a subject, are related to the subject-matter of psychology.

Methods. What are the methods specially suited to the investigation of the problem of psychology? How can we ascertain best the laws according to which conscious phenomena rise and grow?

Introspection. The time-honoured method is that of introspection. It means looking within. Introspection is each man's analysis of his conscious experience. But the method has very serious limitations. Introspection cannot enable us to get a knowledge of phenomena

[1] Article 'Psychology', *Encyclopaedia Britannica*, 10th ed., vol. xx, p. 38.

beyond the ken of consciousness. What lies below consciousness is not open to introspection. The results of introspection, by the very nature of the case, are not open to the scrutiny and investigation of all, and it is hard to arrive at scientific precision, agreement, and certainty regarding them. This disadvantage is due to the fact that it is purely a direct method, though this has the obvious merit that it gives a man firm faith in his analysis. The results of the method can be tested and verified by the capable adult. Neither the child nor the savage is introspective. The most serious drawback is, that as soon as you turn your attention to a mental state it vanishes. Mental states flow and flicker; they are not steady and abiding. It does not follow that the method is valueless. The greatest results of psychology have been attained by the help of it. All that is necessary is that the method should be supplemented by others.

External Observation. The method of external observation is dependent on the previous. By this method we are able to interpret external manifestations of mental states. When I am angry, I have the several external features of palpitation of the heart, clenching of the fist, and reddening of the face. If another individual has these symptoms, I infer that he is angry. From an observation of the bodily symptoms, we pass to the corresponding mental states, making use of our own experience. Even this method has its own drawbacks. We are perforce obliged to make use of our own standards. This may give rise to false conclusions. 'We put notions of geometry into the mind of a bee, and see the sadness of reflection in the eyes of a ruminating cow.' We are apt to attribute much political sagacity and deep knowledge of the principles of specialization and division of labour to the bees, if we observe them working in a beehive. There is this further difficulty that some people's faces may be complete masks. Actions may be restrained. A man may be enraged, but still appear to be calm and composed. Besides,

many mental states do not have any prominent external symptoms. Again, there are some people who may totally lack a certain capacity, so that they do not suspect its presence in another. 'Thus, Charles Lamb tells us that his friend, George Dyer, could never be brought to say anything in condemnation of the most atrocious crimes, except that the criminal must have been very eccentric.'[1] All these merely indicate to us the necessity of using other methods.

Physiology. The conditions of the occurrence of mental phenomena, we have already seen, have to be studied in psychology. We can know them only if we study the nervous system. Every mental state is conditioned by a nervous disturbance. This necessitates the use of the physiological method. Again, all mental states have their physical counterparts. The motor activity involved by consciousness is rendered possible only by means of nerves and muscles. We can have a knowledge of the external world only by means of our sense organs, which are bodily. Recent anatomical research has disclosed to us the fact that the cortical area is made up of several smaller areas which control the different functions of the mind. The very close connexion between mind and brain is also evident from such familiar experiences as the following. An injection of alcohol or a blow on the head leads to alterations in consciousness. When physically tired out, we are mentally exhausted. To study consciousness and its alterations the physiological method is also necessary.

Of late, attempts are being made, with some success, to introduce experiment into psychology. The results of introspection are being subjected to experimental tests. But it must be owned that mental states do not lend themselves to such a kind of handling.

Psychology and other Sciences. *Philosophy.* Psychology, as setting out to determine the causes and principles of psychic experience, is entitled to be

[1] Stout, *Manual of Psychology*, p. 22.

included in the connotation of that very wide term 'philosophy'. But psychology in another and a more important sense is related to philosophy. It affords the best introduction to that study. Philosophy, of late, is becoming more and more psychological. The epistemological problem of the nature of external perception lies at the basis of every philosophical system. Recent differences in philosophy between Intellectualism and Voluntarism turn on the question of the supremacy of intellect or will in man's life; again, a question of psychology. The problem about the relation of mind to body is the problem which settles the dispute between Dualism and Monism in philosophy. In all these ways, then, psychology has metaphysical bearings. In another sense, psychology is dependent on metaphysics; for it takes for granted the existence of mind with its capacity to know matter. For psychology this is the starting-point, though in psychology we learn that the dualism of mind and matter is neither final nor psychologically true.

Logic. Psychology deals with consciousness, which, as we shall see, has three aspects: knowing, feeling, and willing. But logic also has to do with feeling. It is, therefore, a relevant question to ask, How can there be two different sciences regarding the same subject-matter? It is because the two different sciences have two different centres of interest. They look at knowing from two different points of view. Psychology describes the actual origin, growth, and nature of thought; logic deals with another aspect of thought. It asks, Is this thought true or no? It is a science interested in the validity or correctness of thought. In other words, it has a particular ideal in view and sees if actual thoughts conform to that ideal. If they do, the thought is judged to be true; if not, to be false. Logic, therefore, is the normative science of thought, seeing that it has a norm or standard by reference to which it judges particular thoughts to be true or false. The distinction between psychology and logic is that between the structure and

the function of thought. But be it noted that structure and function can never be actually separated, though mentally they can be discriminated. Psychology deals with the structure of thought in the abstract. The question for psychology is, How do our thoughts arise, and how are they constituted? to what associations do they give rise? &c. These questions concern logic in so far as they throw light on the further questions, Are our thoughts true? do they agree with reality? Psychology describes the nature of the processes, and is therefore a natural science of thought. Logic evaluates the products of thought, and is therefore a normative science.

Ethics. It is in exactly the same way that psychology is related to ethics. Both these sciences treat of willing. How willing actually takes place is the problem of psychology, but the relation of willing to conduct is a question for ethics. Ethics frames an ideal of willing and pronounces judgements on actual volitions by reference to that ideal. Ethics is also dependent on psychology, for the ideal of willing cannot be framed unless we know the actual nature of volition. In the solution of certain problems (e.g. the nature of conscience, the problem of freedom) ethics is indebted to psychology.

Physiology. The relation between psychology and physiology is very close, so much so that the recent advances in psychology may be ultimately traced to physiology. The first great triumph of physiological psychology is the application of the principle of reflex action to all activity, including that which is voluntary. But, as we shall see, physiology cannot be the final explanation of psychology. No physical theory can ever be an explanation of mental life. Though nervous activity is an essential precondition of mental activity, still there is such a great disparity between the two that they cannot be identified. A nervous process is not a thought process. Though physiology cannot be the ultimate explanation of psychology, yet it is of

immense use in that study. Pure introspection does not enable us to trace and explain with enough fullness mental states. Mental states do not exist by themselves. They have not the stability and permanence which pertains to the objects of physiological investigations. The fluctuations of attention are notorious.

Sociology. Psychology is very closely allied to sociology. We owe so many things to society. By unconscious imitation we acquire the customs and manners of the society in which we happen to be placed; we identify ourselves with its interests, and feel our existence not as individuals, but as members of society. We learn that we lived before we can remember only by means of society. Social intercourse leads to the expansion and broadening of our intelligence. Language, which has so much to do with the development of thought, is a social medium. So large a portion of man's intellectual development is due to education and experience that a psychologist cannot afford to neglect the importance of sociology for his science.

Of late there has been an attempt to deal scientifically with the social mind and its aspects as apparent in mobs, crowds, &c. The name 'social psychology' is given to the science which has this end in view.

Education. The basis of educational theory is psychology. Education has for its aim the complete and harmonious development of the different functions of man. What those are and how they develop are problems of psychology. Every educator must have a full knowledge of the nature of the mind which it is his business to bring into fullness and maturity. A knowledge of child-mind is therefore necessary for a teacher. Again, any method of teaching opposed to psychological principles is false. Psychology thus affords the negative touchstone of the true method of teaching.

LECTURE II

MIND AND BRAIN

In the previous lecture we have seen that the nervous system and mental life are closely allied. Some kind of neural disturbance is always a precondition of mental activity. 'No psychosis without neurosis' is a true enough formula, though we should be wrong in saying, 'No neurosis without psychosis', as many reflex actions are not accompanied by consciousness. It is the business of psychological theory to account for this close relation of mental and neural phenomena. Several attempts to explain the relation have been made, of which the following are most noticeable.

Epiphenomenalism. We have already seen how physiology applies to psychology. One of the greatest triumphs of this application is the extension of the hypothesis of reflex action. Carried away by the fact that reflex actions cover a large portion of our activity, some psychologists made it cover the whole field of human activity, even conscious states not excluded. If reflex action which does not involve consciousness is able to perform such complicated operations as digestion, respiration, &c., is it not a probable hypothesis that nervous activity is the sole essential factor everywhere? Sometimes action of the nervous system is accompanied by consciousness, and sometimes not. Consciousness is a useless extra which now and then makes its appearance. It is compared by Huxley to the whistle a passing train gives off. The real motive force which pulls the train is the power of steam, and the whistle appears to have no function to fulfil. So also the real cause of activity is the exercise of the nervous system, while consciousness, like the whistle, is an occasional occurrence. Thus psychology is reduced to physiology. The theory supports itself by the following arguments:

i. It is impossible to conceive how consciousness can affect our nervous activity. Were consciousness causally related to nervous activity, then it would resemble it in some respects. Cause and effect cannot be totally different. That they are so very different is evidence of the fact that the two are not causally related. The appearance of consciousness can only be compared to the appearance of the Djin on Aladdin's rubbing the lamp. But we find, on this count, that consciousness can never be a product of nervous activity. Hence not only is consciousness not the cause of nervous activity, but also nervous activity is not the cause of consciousness.

ii. It is said that the theory is merely an extension of what is found true in a large portion of human activity. It is only an attempt to make true of the whole what is true of the part. Very complicated actions are carried out by neural processes without the occurrence of consciousness. Men in abnormal states, or decapitated frogs, perform purposive acts. Is it not highly probable that consciousness is only a by-product having no connexion with the chain of events, which are determined solely by the nervous system?

Criticism. But the theory seems to be hopelessly opposed to sturdy common sense. As Professor James remarks, "If we knew thoroughly the nervous system of Shakespeare, and as thoroughly all his environing conditions, we should be able to show why at a certain period of his life his hand came to trace on certain sheets of paper those crabbed little black marks which we for shortness' sake call the manuscript of *Hamlet*'. Testimony of consciousness declares that man's consciousness possesses the power to initiate movements. Thus, according to our intuitive conviction, our consciousness plays a part in determining our actions. We saw above that nervous phenomena cannot be the final account of psychical states. There is no resemblance between any particular motion and a sensation of sound. The one fact which the application to psychology of the

evolutional hypothesis brings out is that consciousness is teleological. If consciousness really were such a useless extra as the fanciful theory of the epiphenomenalists would make us believe, then in the evolutionist struggle it would not have survived. The fact that it has survived and that it is the latest development in the evolutionist scale indicates that it is thriving and efficacious. An examination of actual facts and everyday experiences points out that consciousness appears only when it can satisfy some purpose. In such secondarily automatic movements as writing, cycling, or piano-playing, the individual at work in these several ways may also follow another train of thought because he has acquired mastery over all these movements. This he could not have done when he originally acquired these movements, as he then had to attend to the several intermediate stages. Consciousness was present when the movements were originally acquired. After he is expert in them, consciousness lapses. Consciousness, throughout its existence, spells purpose. It is impossible that it should be a superfluous phenomenon having no useful part to play. Again, if we adopt the purely psychological standpoint, we shall find that the existence of all matter (nervous system included) is first apprehended through mind. But the most serious objection is that the theory does not leave room for spontaneity. Individual initiative is done away with. Can we blame any man, or pass moral judgements on his doings, unless we are sure that the acts or objects of moral judgement are the expression of his freewill?

Parallelism. By parallelism we may mean just the fact that psychical and neural phenomena are parallel to each other. If this is the meaning of the term, then it is no explanation of the concomitance, but only describes the fact. It may be viewed as a working hypothesis which does not attempt to explain the fact, but only confesses our ignorance about the problem. It does not attempt any hypothesis as to the '*why*' of the concomitance. But sometimes parallelism is construed

as a metaphysical theory which holds that the two, mind and matter, are parallel, because they are two aspects of the one substance underlying them. This is the 'identity' hypothesis, or doctrine which holds that mind and matter are two attributes or aspects of one ultimate substance. There is a great difficulty in the way of this theory. It cuts the Gordian knot only in words. It is beyond proof whether any such substance exists. In other words, these theorists avoid criticism by carrying their tale to the region of the unknown and the invisible. The theory lands us in Agnosticism. Moreover, this theory requires a very close parallelism between conscious states and nervous occurrences. Nothing short of a point for point correspondence can establish the theory, and that we do not have. But if we divide consciousness into a series of points, we shall go against the modern view of psychology which totally dissociates itself from the doctrine of psychological atomism.

Interactionism. Another theory, not content with merely asserting concomitance, goes further and holds that the two are causally related. Mind acts upon body, and body upon mind. It is a fact that every psychical phenomenon is preceded by neural disturbance. Hence they must condition each other. The theory is of course in harmony with common sense when it holds that consciousness has causal efficacy. It also agrees with physiology when it holds that nervous activity gives rise to consciousness.

To this theory it is objected that the relation between the two is inconceivable. But we should once for all make clear to ourselves that man's capacity to conceive is no satisfactory test of truth. So many things which have been proved true have been inconceivable. The movement of the earth round the sun is inconceivable, but still it is a fact. Thus the objection is not valid. From the standpoint of physical science it is urged that the theory is opposed to the Law of the Conservation of Energy. According to this principle, the energy in the universe

is a fixed system which can be neither increased nor decreased. The action of mind on matter involves an addition to the physical system, as some part of the cause must pass into the effect; and the opposite case involves a diminution of the system of energy. But it is to be noted that the law of conservation is only an empirical generalization; true, within the limits of time and place, the law should hold good only so long as we are dealing with physical factors. When a psychical factor is introduced, the law need not apply.

But, when all is said and done, the theory is not free from difficulty. Cause and effect, we have already seen, must be identical in some sense. But mind and matter have no properties in common. The best view to be adopted, under the circumstances, is perhaps parallelism in the limited sense of a working assumption in psychology.

LECTURE III

CONSCIOUSNESS AND ITS NATURE

Modes of Consciousness. The subject-matter of psychology is conscious states. What are the different aspects of consciousness? What are the different ultimate modes of being conscious? Originally it was thought that knowledge and volition were the two sides. The ultimate functional unit of the nervous system is the sensory motor arc. Corresponding to it, man was considered to be a complex of knowing and willing capacities. Psychology came to be the science of the cognitive and active powers of man. But the element of feeling which is necessary to convert a cognitive possibility into a motor actuality was recognized only by Tetens. This triple classification was made current in philosophic terminology by Kant on the Continent and Hamilton in England. Cognition, feeling, and will are the three aspects of consciousness. Any one state

of consciousness is a complex of all these three; but mental states differ because of the varying proportion of these three constituents, which are always found together, though in ever-changing ratio. To illustrate: take the state of attending to an object. Here the cognitive side is predominant, seeing that we acquire a clearer apprehension of the object attended to. Attention is always selective. It operates under the guidance of an interest or purpose. Thus the volitional side is also present. According as the purpose which induced the process of attention is satisfied or not, we have the feeling of pleasure or pain. Similarly, in the state of intense fear there is the cognitive side in so far as the perception or apprehension of an object gives rise to fear; there is the feeling element and that in a prominent way—we are in a state of intense pain; there is also the volitional element, as we desire the avoidance of the object which excites fear. Take, again, an act of definite deliberate decision. When we resolve on a particular plan, we must clearly cognize the plan, i. e. have a clear idea of it. Mere knowledge is inadequate, we must be interested in the idea. It is only then that we adopt it, and this is the feeling element. The conative or the active element is, of course, predominant in this state. These three elements, cognition, affection, and conation, cannot be reduced to each other. Hence they are considered the three ultimate irreducible factors of consciousness. But it ought to be clearly noted that one cannot exist in isolation from the others. If viewed by themselves they are artificial abstractions. The living whole of experience has all these three inseparably blended, but they are present in different degrees. To speak roughly, consciousness is a variable of these three different functions, and the starting-point of psychology is a purposive subject. An end or purpose, presentation of the end, or the cognition of it, and devotion to that end, or interest in it, are what we have in every mental state. The unity of them all is the subject.

Dr. Ward[1] discusses a view which makes feeling the primordial element of consciousness, of which the two others are phases. In the lowest scale of animal life we find the feeling element most predominant. In the animal world, pleasure and pain are the main springs of action. As we proceed higher up we find the feeling element. The highest concerns of man, art and religion, are matters of feeling. Feeling, therefore, is the *sine qua non* of consciousness. But from this it does not follow that feeling is the one ultimate mode. The plausibility of the theory is due to the ambiguity of the word 'feeling', which may mean the pure feeling of pleasure or pain, an organic sensation, an emotion, or any mental state. Even such an able writer as Professor James uses feeling in the sense of a sensation. In the hands of a less able writer it would have given rise to much confusion and misunderstanding. We shall see later that feeling is only an effect which accompanies the progress of activity. We have the feeling of pleasure as our interests are promoted, and pain as they are thwarted. It depends, therefore, upon conation. Instead of its being the ultimate mode, it has rather the appearance of being the resultant effect of the other modes.

Mr. W. E. Johnson arrives at a threefold classification of mental states by conceiving consciousness as a subject-object relation. He holds that we have cognition in all those states where neither the subject affects the object nor the object the subject. When object affects the subject we have feeling; when subject affects the object we have attention. According to the view here presented it looks as if there can be pure cognition, pure feeling, &c., which, we have taken care to note, are false abstractions. Secondly, the view assumes that in cognizing reality the object is not in any way altered, which is a doctrine to be proved rather than assumed, seeing that psychologists of the Kantian school hold that in our cognition of reality we mutilate it by

[1] Article 'Psychology', p. 40.

throwing upon it forms of space, time, and the categories which are resources of the mind and not qualities of things. Kant's theory may not be true, but it is still a theory which has to be proved false, and cannot be summarily dismissed without discussion. The view therefore errs in assuming the falsity of a doctrine well entitled to a careful examination. Thirdly, is attention purely a case of subject affecting object? We do not attend to an object unless we have an interest in it; i. e. the object must attract us before we attend to it. Attention, therefore, is as much a case of object affecting subject as of subject affecting object. Lastly, an *a priori* classification of mental states on this principle must include also the case of the mutual action of subject and object, which is not offered in the view.

Characteristics of Consciousness. *Unity.* Consciousness is a unity, for the several mental states we have, though they look distinct and isolated, are all united because of the purpose they tend to realize. Mental states, therefore, have conative unity. Unity is conferred on them by means of the purpose they strive to attain. You get up in the morning, dress, wash your face, take your coffee, read for a while, go to college, and so on. All these at first sight seem to be distinct activities, quite independent of each other, but a closer examination reveals to you the fact that they are different steps you have to take if you wish to obtain a University degree. All these different activities, therefore, are one in the light of the purpose they have in view. These several purposes themselves are subordinated to a still higher one, and so on until, at last, our whole life seems to be an attempt to realize one life-plan or ideal that we have set before ourselves. In the next lecture we shall see how the starting-point of consciousness is a vague mass or whole which is differentiated into parts by means of mental activity. Our mental activity tends to bring out the essential unity of the presentation continuum which is a confused and continuous mass. The unity which is implicitly present

in the starting-point is made full and explicit as we proceed higher up the scale of our mental life.

Continuity. Consciousness is not only a unity, but also a continuity. We do not have to do with a series of particular states that have no relations to each other. Introspection discloses to us the fact that we have a whole to start with. Our mental states cannot be compared to islands separated by water, but to a stream where the distinct presentations are the waves. When we pass from one mental state to another, we do not have an abrupt change but only a gradual transition. As Professor Ward says, 'At any given moment we have a certain whole of presentations, a field of consciousness psychologically one and continuous; at the next we have not an entirely new field but a partial change within this field'.[1] But it may be asked, does not the cracking of the glass pane abruptly force itself upon our consciousness and break it in two? Is there not an abrupt transition between the two? No: the previous experience enters into and modifies the sensation of the cracking. Against the continuity of consciousness it is also urged that there are distinct time-gaps in our consciousness, like sleep. In the light of this, is consciousness continuous? The answer to this lies in the fact that though there are breaks, these do not matter much. Our memory bridges the gulf. If this night the train of my thought be cut off, next morning I am able to connect my present thoughts with those I had the night before. 'When Paul and Peter wake up in the same bed, and recognize that they have been asleep, each one of them mentally reaches back and makes connection with but *one* of the two streams of thought which were broken by the sleeping hours. Peter's present finds out Peter's past, and never by mistake knits itself on to that of Paul. Paul's thought in turn is as little liable to go astray.'[2] Thus consciousness is a continuous whole.

[1] Article 'Psychology', p. 45.
[2] James, *Principles*, vol. i, p. 238.

We have already encountered some other characteristics of consciousness. We have already seen that it is teleological in its nature, and appears only if it can satisfy some purpose; that it is personal, i.e. that all conscious states belong to a self, and form part of an individual's conscious history.

Degrees of Consciousness. At any one moment of conscious life, our conscious state is not so simple as it appears to be. At present, as I am addressing you, the clock is ticking, the punkah is working, I can hear the noise of traffic outside, the present position of my body is sending back physical sensations which keep me vaguely aware of my posture. All these are operating on my sense organs, though they are not producing distinct perceptions. I am not attending to them all. They are not in the focus of my consciousness. What lies in the focus is the subject-matter which I wish to express. But of the others I cannot be said to be unconscious. They do give rise to a kind of consciousness which is not distinct. I am only vaguely aware of them, but I should become distinctly conscious of them if the clock stopped its ticking or if the punkah did not move and so on. Any one of these vaguely-felt sensations may attract our attention, and thus occupy the focus. Besides these, two other grades are generally recognized, viz. subconsciousness and unconsciousness. All impressions which do not rise to the level of consciousness on account of their lower intensity are said to lie in the region of the subconscious. A physical stimulus may take effect on the nervous system without any sensation arising; and the sensation arises only when the stimulus has reached the required strength. Again, the several operations that are going on in the body, of which we are not aware, are all unconscious. Language, and for that matter all our mental acquisitions, when we are not using them, are said to lie in the region of the unconscious. It is a problem whether they lie in the form of nervous dispositions or psychical dispositions. It is plain they cannot be purely nervous. For pur-

poses of convenience we can treat them as psycho-physical.

Mental Growth. In mental growth, different levels can be distinguished.

(1) We have sense-perception to start with. The senses form the gateways of our knowledge, and (to vary the metaphor) upon their basis is built up the further edifice of knowledge.

(2) Imagination, with its two kinds, productive and reproductive, is another stage of mental growth. Reproductive imagination is memory; productive imagination evolves novel construction on previous data.

(3) We have next conception, which is thought of the universal.

All these are not distinct acts, nor are they three successive stages, but are to be found all together, some in an indefinite and others in a definite manner.

Before we pass to the consideration of these, it will be well to acquire the right view of the nature of mental growth, and this subject we will consider in the next lecture.

LECTURE IV

MENTAL GROWTH

PSYCHOLOGY is a science of explanation. As such it has to offer some kind of explanation for mental life and growth. The nature of the explanation indicates the psychological theory of the authors of the explanations offered: the two most prominent are Faculty Psychology and Associationism.

Faculty Psychology. The faculty hypothesis divides mind into a number of departments. It views mind as possessing a number of distinct faculties which are the agents controlling the different functions of the mind. A particular state of mind, on this hypothesis, is

explained by assigning it to its faculty. Say I have arrived at a state of decision; it is due to my faculty of will. This view is open to insuperable objections. It overlooks the essential unity of mind. We have seen, in the last chapter, that consciousness is one, that the different so-called functions of the mind are interdependent. Offered as a theory of explanation, it does not explain. To say that a particular volition is due to the mysterious faculty of will is no explanation of the volition. We might as well say, 'will is due to will'. As Professor Stout observes, it is like the answer of Molière's physician that opium produces sleep because it has a soporific tendency. Locke brings out very clearly the nature of the fallacy involved: 'We may as properly say, that it is the singing faculty sings, and the dancing faculty dances; as that the will chooses, or that the understanding conceives; or, as is usual, that the will directs the understanding, or the understanding obeys, or obeys not the will: it being altogether as proper and intelligible to say, that the power of speaking directs the power of singing, or the power of singing obeys or disobeys the power of speaking.'[1] The theory merely classifies different mental states, but does not explain them.

Associationism. *Statement.* This theory of associationism has been made much of in the modern history of the subject. It has an element of truth which it exaggerates. We are all familiar with the facts of mental association. Given two experiences in close juxtaposition, the recollection of the one tends to recall the other. If I meet the Governor at the post office, mention of the post office brings to my mind the Governor. The facts of association are familiar experiences, and they are admitted by all psychologists, but the theory of associationism presses these facts into a doctrine. They are made to account for the whole of our mental life. Associationism is the theory which holds that our mental life starts with impressions and ideas. Ideas are faint copies

[1] *Essay on Human Understanding*, Book II, chap. xxi, § 17.

of impressions, the impressions themselves being distinct particulars, repellent units, having nothing to do with each other. The classical statement we have in Hume, though Locke anticipated him in stating the efficacy and all-importance of association. Says Hume: 'All the perceptions of the human mind resolve themselves into two distinct kinds, which I shall call impressions and ideas . . . every simple idea has a simple impression, which resembles it.'[1] Locke seems to think that man can only 'compound and divide the materials that are made to his hand'. Thus the essential principles of the theory are: (1) our knowledge starts with a series of distinct and isolated particulars which are impressions, and ideas which are faint copies of impressions; (2) mental growth consists in compounding or putting together simpler states: higher and more complex mental products are got by a fusion of the simpler ones; and (3) mind is a series of impressions. The doctrine counts among its supporters the two Mills and Bain.

Criticism. What shall we say by way of a critical estimate of this theory? The explanation of 'impression' is unsatisfactory. What is an impression? on what is it impressed? The necessity of a subject is obvious, but if we reduce the subject to a bundle of impressions, we are not entitled to admit it. Secondly, if mind is only a series of impressions, it is impossible to conceive how self-consciousness is possible. Self-consciousness, according to the theory, becomes a series of impressions aware of itself as a series. How a series can be aware of itself as a series is, indeed, hard to imagine. Thirdly, there are certain ideas of which we have no corresponding impressions; e. g. the ideas of God, Freedom, and Immortality. The whole business of metaphysics is summarily dismissed. Fourthly, the impressions cannot be particular and distinct. If they are particular, then they are not related to each other. The living articulated experience makes all knowledge a unity, a system of interrelated parts. What is the validity of those

[1] *Treatise*, Book I, Part i, § 1.

relations which exist in experience? This was the problem of Kant. If the original facts were purely particular, if they had not any relations among themselves, then the several connexions or relations which exist in experience must be simply thrust upon them. As the facts are particular, the relations are external to the facts. They are subjective and arbitrary. Our knowledge is not true of reality. Reality is a chaos, while our knowledge represents it to be a cosmos. Fifthly, association, as Mr. Bradley says, obtains only between universals. If the facts were particular, association does not take place among them. The child is not only afraid of the candle-flame, but is also afraid of the lighted match. This is possible only if association has taken place between universals. For, should it be between particulars only, the child ought to be afraid only of the candle-flame, and not of the lighted match. When the child dreads the lighted match it does not even think of the candle-flame, which ought to be the case if association obtained only between particulars. Sixthly, particulars as such cannot be revived. A state is particular on account of its concrete setting, and when the state (grant for argument's sake) is revived, the context and clothing in which it occurred are not present. All that is the same is the meaning or universal. No two states of consciousness are exactly alike. Seventhly, by the theory, our whole mental life is made one of reproduction and not construction. We construct novel themes and plans which we never experienced. Were this not possible, there would have been no progress in the world's civilization. Some kind of mental construction is necessary everywhere. We cannot get the idea of the college by combining the ideas of the different students of the college. At the back of these simple ideas is the thought of the student. None of them is the thought of an arrangement of students. Therefore even if it were possible to make many thoughts into one, it would still be the thought of students, and not of a college. The idea of the

college is not the idea of the separate students. A combination of ideas is not the idea of combination. Eighthly, we generally encounter states which are said to be compounded of simpler ideas, but they do not at all resemble the simpler ideas that are said to be the elements of them. To bolster up the hypothesis in this difficulty, J. S. Mill brings forward his hypothesis of mental chemistry. He held that just as chemical elements combine and produce a compound quite different from the elements which enter into it, so also certain mental states are produced by a combination of simple ideas, though they do not show any trace of their presence in them. The obvious difficulty here is that with regard to mental states the presence, if real, must be obvious and apparent. It ought not to lie hidden, for in chemical compounds we are able to trace out the elements by an examination of them, but we cannot do this in the case of these psychical compounds. As Professor Stout says, with regard to mental compounds, appearance means existence, and non-appearance means non-existence.

The obvious fallacy that has been at the root of the whole system is, that because we can analyse a particular idea into distinct elements, we suppose the elements first existed separately, and then were fused, producing the complex product. But to say that the idea involves certain elements, is very different from saying that the elements combined and produced the idea, and the confusion between the two has been the cause of all this misunderstanding.

But an introspective analysis discloses to our view that our consciousness is continuous; there are no abrupt changes, and one state of mind gradually passes into another. We start with a whole of undifferentiated parts which we discriminate into the distinct details latent in it by successive efforts of attention. What we have to start with is a vague mass of sensations or a 'big buzzing confusion' where detailed knowledge can be got only by mental analysis and synthesis. The

different mental states are like the waves in a stream; they are the prominences on a dim background. The mental states are not therefore discrete, but are all connected with one another; they lie in the same unity and they are already related to one another. Mental growth has only to bring out the relations, disimplicate them from their confusion, and convert the vague continuity of sense into an ordered whole of experience. Out of a vague indefinite mass of sensations we have to erect the living whole of knowledge and experience; and for this purpose mental activity is needed. Mental activity by means of attention, association, analysis, and synthesis has to develop the continuity of sense into the unity of meaning, the vague confused presentation continuum into a world of objects.

It must be very carefully noted that the starting-point of conscious life is a presentation continuum, which is then, through mental activity, differentiated into detailed knowledge. On this view the function of thought or intelligence is to bring out or discover the relations existing in the starting-point. These relations are neither produced nor created by thought. They exist, but they are not clearly discriminated; but all the same they are present without our being conscious of them. What thought does is to disentangle them, unravel them from the confused background in which they seem to be lost. The progress from our starting-point or presentation continuum to our end or knowledge is one from indefinite to definite, from relation to a consciousness of that relation.

The opposite view, that we start with particulars which are unrelated, leads to the gravest fallacies. The Kantian epistemology, though it did much to overthrow the theory, still uncritically assumed this doctrine, which vitiated the whole system. Kant thought that mental life started with a manifold of sense without any kind of unity. If thought starts with particulars unrelated to each other, then they cannot give rise to those synthetic connexions which constitute experience.

Those connexions, then, must be mind-made; they are subjective and not objective. We are obliged to superinduce those relations on objects of consciousness, so that our mind distorts and mutilates reality. We do not know reality as it is; our knowledge is confined only to phenomena. The thing in itself, as it would be, we do not know. Thus we get the false distinction between phenomena and noumena. Hume, again, had to take refuge in scepticism because he was not able to give a satisfactory account of those universal assumptions which were needed by experience, though not warranted by it. In our experience we use universal assumptions like causality, but the particular facts can only give rise to subjective and contingent relations, not to objective and universal relations like causality. These connexions are not objective, for facts are unrelated and the relations can only be subjective.

LECTURE V

SENSE-PERCEPTION

Analysis of Perception. We have seen in the last chapter that we have to start with a presentation continuum, a vague flux of sensations out of which we have to discriminate objects. Cognition of objects arises only by means of perception. When the vague presentational mass is discriminated into distinct parts we have perception. Perception is the cognition of external reality by means of a sense-impression. An analysis of perception reveals to us two elements which are synthesized in it; viz. sensory impression and some image or meaning. In a perception we interpret a sense-impression. We perceive a gold ring. All that sense gives us is a yellow surface. We interpret this surface to be that of the gold ring. The sense-impression is inter-

preted by the mind so as to give rise to the object gold ring. An analysis of perception reveals to us the two elements in it, sense-impression and meaning or interpretation. Perception, therefore, logically presupposes sensation; but it ought not to be supposed that sensation exists first, and then arises perception by a fusing of sensations with images. Perception is the actual fact of consciousness, while sensation is purely an abstraction which exists only in the psychologist's mind. Perception is a fact of observation from which we *infer* the existence of sensations. Professor Ward holds sensation to be a psychological myth. But we have seen how a logical analysis of perception takes us to sensation. Let us see how we can best define this hypothetical sensation.

Perception and Sensation. Sensation is that mode of consciousness which is produced by an external stimulus operating on some peripheral nerve-ending. It is purely subjective. It would never give rise to any awareness of an object, which is the distinct characteristic of perception. A sensation becomes modified in an act of perception. It carries a meaning which makes it a percept. It is needless to affirm that such a purely subjective state without any cognitive function does not at all exist. From the moment of our waking life our consciousness is full of suggestion, interpretation, and association, thus rendering a pure sensation impossible. Its existence is only as an element in perception, where it is modified and supplemented by the results of our previous experience.

To take any other view of the relation of sensation to perception is not only psychologically false, but is philosophically most mischievous. If we really have at the start sensations which are purely subjective states not implying any awareness of objects, the question arises, How do the subjective modifications get themselves transformed into a world of objects? It is then necessary to bring in some such hypothesis as Mill's mental alchemy with its laws of association, or Kant's

apperceptive synthesis with its categories. This view inevitably lands us in agnosticism. We are only aware of subjective modifications which were caused by the external world. But these subjective modifications have to be transformed into a world of objects. Into man's head the whole world goes. The difficulty is to project this world outside, by grouping the subjective modifications and mentally manufacturing objects. There is no knowing whether the external world, as the result of our mental activity, is the same as the external world which originally gave rise to the subjective modifications. The world as the cause of our subjective modifications, and the world as the effect of our mental transformation, may not be the same. We know only the objectified sensation, and not that which gave rise to the sensation. We know the world as it has been transformed by our mental powers, but the real world we do not know. Thus the wholly untenable distinction between phenomena and noumena arises on this view. All this difficulty is because we misinterpreted the positive fact of consciousness. That alone which we have immediately is the perception of an object and not a subjective modification. Perception is the starting-point of thought. What we have is a perception of some object behind which we need not go. Perception is the ultimate fact which brings us into direct contact with reality. Sensation, therefore, does not exist prior to perception, but exists only as an element in perception.

Having this prominently in our view, we may with advantage study the different sensations and their characteristics. The five sense organs provide for five kinds of sensation. Sight, sound, smell, touch, and taste are called external sensations because they enable us to obtain a knowledge of the external world. As opposed to them we have internal sensations, which include organic and muscular sensations. These keep us aware of the state of our bodily organism. The organic sensations form an important factor in the feeling of bodily identity. Any abrupt change in the

organic sensibility disturbs our feeling of identity. Professor Jastrow[1] gives the example of the Scotchman who in his cups fell from the cart on the roadside and mused, 'Be I Sandy MacAllister or be I not Sandy MacAllister? If I be he, I have lost a horse, but I be not he, I have found a cart.'

Characteristics of Sensations. These sensations possess certain characteristics. They differ with regard to their quality as red from blue, sight from smell. Sensations also differ in intensity. A loud note differs in intensity from a soft note. Duration, or the time for which a sensation lasts, also gives rise to distinctions among sensations. Some sensations last for a longer time than others with regard to their feeling quality; they also differ as sweet, which is pleasant, from salt, which is unpleasant. Sensations also possess the characteristic of extensity. 'In the sensations of hearing, touch, sight, and pain we are accustomed to distinguish from among the other elements the element of voluminousness. We call the reverberations of a thunderstorm more voluminous than the squeaking of a slate pencil; the entrance into a warm bath gives our skin a more massive feeling than the prick of a pin; a little neuralgic pain, fine as a cobweb, in the face, seems less extensive than the heavy soreness of a boil or the vast discomfort of a colic or a lumbago; and a solitary star looks smaller than the noonday sky.'[2] These are some of the attributes of sensations. In this connexion it may be noted that the nature of a sensation does not depend on the stimulus, but upon the sensory zone or, roughly, the end organ affected. The rays of the sun as they fall upon the retina produce sensations of light; on the skin, sensations of temperature.

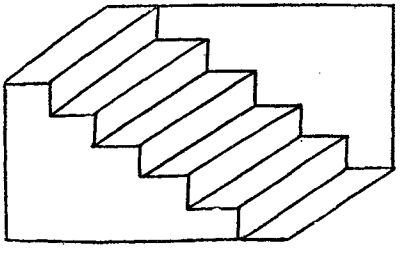
Growth of a Percept. Resuming the thread of our argument, we have seen that we have a perception whenever by means of an actual sensation we become aware of an object; i.e. whenever a sensation conveys

[1] *The Subconscious*, p. 148.
[2] James, *Principles*, vol. ii, p. 134.

a meaning, whenever it is modified and supplemented by the mind's powers. It is therefore a pertinent question to ask, how sensations acquire a meaning, how they become perceptions. In this connexion, we have to take note of certain mental laws. Mental growth requires that previous experiences should be somehow retained, though they need not be explicitly present to consciousness. Previous experiences modify in a perceptible way our future experiences. If we dip our fingers into a tumbler of warm water and then into one containing water which is neither warm nor cold, our experience of the latter is like that of ice-cold water. We can account for this only by stating that the previous experience has modified the present. This is what happens throughout our mental life. It is a psychological law that every state of consciousness is modified by the previous states, so that all our experiences are interrelated. From the first our conscious states are determined by their relations to other states. Thus it is impossible to resolve consciousness into a series of simple and self-existing states independent of each other. Take any process of mental activity, say attending to a rose: your attention has been drawn to the object through its sweet smell. You then find out that it is within your reach, and note that it is beautiful in appearance; you then pluck and possess it, and these three events give you satisfaction. Here is an experience centred upon a single object, but this conative experience can be analysed into the three distinct factors: (1) an olfactory sensation of sweet smell; (2) a visual sensation of colour; (3) a kinaesthetic sensation of plucking and possessing. With regard to a series like this, Professor Stout asks whether they can be represented by *a*, *b*, *c*. This symbolism indicates that the three sensations are distinct and separate, but, as a matter of fact, they are parts of one conative whole. The sight sensation is not pure sight, but sight as it has been induced by the smell; and the movement is not simple movement, but movement to which you were led by means of the sight,

which itself was due to the sweet smell of the rose. All these are not unrelated, but are parts of one whole. The right way, therefore, of representing them would be not a, b, c (for then we should be adopting psychological atomism), but a, bm_1, cm_2, where m_1 and m_2 stand for the traces left behind by the previous experiences. This kind of meaning which experiences possess on account of the mental states which precede them is called *primary* meaning. But suppose the smell occurs for the second time; then it is not pure smell, but smell which means sight and movement along with which it went during its first occurrence. The pure, unadulterated sensation of smell has acquired a meaning. It means the flower, rose. The sense-impression of the smell is interpreted to be the smell of the rose. But it is to be distinctly remembered, though the sensation of smell means the sensations of sight and movement, the latter need not be explicitly reinstated. We do not have distinct images of them, but still they are in the mental construction which is the percept. Such, then, is the way in which a sensation acquires a meaning and becomes a percept. The sensation of smell is synthesized with the meaning or images of sight and movement. A percept, therefore, is a synthesis, a single unit. It is not the sum of sensation and meaning. But it is the single whole in which the two are indissolubly blended.

This accounts for the fact that the same sensory impression suggests different objects. The accompanying figure may suggest a staircase looked at either from



above or from below. The whole thing depends on the interpretation put upon the sensory impression. Our previous experience determines what images are synthesized with the present sensory impressions. The images will generally be those which were originally presented along with this sensory impression. Conative tendencies also play an important part. They determine what meaning we synthesize with the sense-impression. When we are waiting for an Ice-House Road tramcar, we are apt to read that name on a car on which is explicitly written 'Luz Church Road'. Therefore the meaning with which a sense-impression is synthesized depends on what objects were presented with it originally, what meaning will *work*, or what meaning is interesting to us.

LECTURE VI

SPACE AND EXTERNAL REALITY

PERCEPTION is the cognition of an object, and whenever we become aware of an object we cognize it as spatially extended, and as existing independently of ourselves. It is the business of the psychologist to trace how the perception of space and external reality arises.

Theories of Space. Two theories are generally advanced regarding the perception of space. The Nativists of the school of Kant hold that space is a form of perception. It is a tendency of our mind by which we locate objects in space. Thus space is due to the functioning of the mind, and in a sense is an intuitive perception. It is not due to experience, but is purely *a priori* in its nature. On the other side the Empiricists, of the school of Mill and Bain, hold that the perception of space is due to education and experience. In support of their thesis, they refer us to a baby's perception of

space. Its crying for the moon is a literal fact. The cases of persons who have attained sight after a temporary absence of visual power also indicate that much in our perception of space is due to experience. Making much of this necessity of experience, they urge that the perception of space is due solely to experience. According to them, our perceptions originally are not spatially extended. They are, at the outset, only successive. By mental association we convert the temporal succession into spatial coexistence. The perception of space is due to the association of non-spatial elements, and is thus wholly empirical.

Both these views, in their extreme form, are wrong. The Nativist view cannot satisfactorily account for those phenomena of the baby's crying for the moon and the blind man's defective perception of space. Besides, we are not psychologically entitled to hold that space is an *a priori* form of mind superinduced on objects which do not possess it. It may or may not be philosophically true, but our introspective analysis does not reveal to us any such resource of the mind which converts non-spatial into spatial elements. Thus the Nativist view that space is a form somehow miraculously contained in our mind *a priori*, ready to be applied to the sense elements, is unsatisfactory. The Empiricist view as held by Mill and Bain, that the apprehension of space is acquired by association of non-spatial elements, has also to be rejected, for association is not capable of yielding wholly novel products. It is attributing a miracle to association to hold that it can produce space out of non-spatial elements. Later, we shall see how both these views contain important truths, which are exaggerated in their extreme forms.

Spatial Perception. *Extensity.* The first factor we have to take into account in spatial perception is that of extensity. All sensations possess this characteristic. The difference between the detonation of a gun and the ticking of a clock, the powerful glare of lightning and the dim light of a candle, is one of extensity. This, the

feeling of extensity, is the starting-point of spatial perception. We cannot go behind it. It is the datum or the first condition of spatial experience. Thus far the Nativists are right. We have to recognize the ultimate existence of the crude feeling of extensity, which we have to develop into the spatial order which is constituted by such relations as position, distance, and direction. But these spatial relations hold only among parts. It is therefore necessary that we should differentiate the vague whole of extensity into a plurality of parts.

Local Signs. Here we have for our help local signs. At first sight, the surface of the hand appears to be one vague extended whole; but as a fly crawls along the surface, we find that what originally appeared a whole consists of parts. It is really a whole of parts which give rise to dissimilarities in sensations. Each particular nerve-ending of the skin, when stimulated by the fly, not only gives rise to a tactile sensation, but is accompanied by a distinct peculiarity which enables us to discover that one part of the skin-surface is different from the others. 'If with the finger we touch first the cheek and then the palm, exerting each time precisely the same pressure, the sensation shows a distinctly marked difference in the two cases, and we also observe that spots even tolerably close together differ in respect of the quality of their feeling' (Wundt). Every such peculiarity gets itself associated with the sense-differences of contiguous parts, and with the kinaesthetic sensations also. What is given is a local sense-difference, which acquires the capacity to act as a local sign because of its associations with the sense-differences of the neighbouring parts and motor sensations. The sense-difference becomes a sign or symbol of the part of the surface affected. Thus by means of local signs we differentiate the whole into the parts of which it consists. But a whole consisting of parts is not space. We must establish definite relations among these parts, and this is done by means of mental analysis and association.

Movement. Here movement plays a great part. Any such movement as raising the arm or passing the hand over the body involves a series of kinaesthetic sensations consequent upon the movement of the muscles. If we represent these motor sensations by *a*, *b*, *c*, *d*, it is not possible that *a* should pass to *d* without passing through *b* and *c*. This definite arrangement is established among the parts. Again, parts near each other have their local sensations nearly resembling each other. The local sensations of two distant parts are very different, while those of neighbouring parts are closely allied. Thus also we are enabled to establish definite relations among the parts we differentiated in the vague whole. This constitutes spatial order. This account has had in view mainly the process whereby tactual sense-perception takes place. In adult life vision also helps in the process. There are usual sense-differences corresponding to the different parts of the retina, and they become local signs by association with each other and kinaesthetic sensations produced by the movement of the eyeball. In actual life both these co-operate.

The view just outlined effects a compromise between the two rival theories of Nativists and Empiricists. It holds with the Nativists that the crude feeling of extensity is innate. It is an ultimate fact beyond which we cannot go. Further development of spatial relations out of extensity is due to experience.

External Reality. We have next to indicate the way in which the perception of external reality arises. How does the individual acquire a knowledge of the independent existence of things and other selves? Professor Stout[1] gives in this connexion the two factors of motor adaptation and self-projection. We begin to cognize the existence of external reality so soon as the free play of our subjective self is checked, or so soon as the easy flow of our will encounters a resisting obstacle. We wish to lift a weight. To do that we have to put forth an amount of energy which we cannot of our own free

[1] *Groundwork of Psychology*, chap. ix.

choice determine. The object itself fixes the amount of energy required to lift the weight, if we want to come to a successful issue. It is only in cases where our motor effort is resisted, where we have to adjust our activities to something else, that we feel we are not the lords of the situation. There are other things in this universe which sometimes assert themselves. We cannot always do as we choose: our will is finite and limited. It encounters stumbling-blocks. It is thus we realize that there are other objects besides ourselves. We begin to cognize external reality when our will meets with limitations, or when our subjective activity is checked and limited by objective control.

But how is it possible for us to know that there are other selves? External reality includes both objects and selves. How does a knowledge of other selves arise? It is mainly by self-projection, which is interpreting the outward symptoms by means of our own experience; e. g. I know that, when I am angry, I exhibit some such symptoms as palpitation of the heart, clenching of the fists, reddening of the face, &c. So if another being resembling me in outward shape displays these symptoms, I at once infer that the being is angry. I know that the other being is a self, at present in the mood of anger. In primitive stages of development there is much hasty generalization on this point. The savage attributes life and soul to mountains and rivers. I throw a stone, definitely willing to do so, and the primitive man thinks that the tumbling of a stone down a mountain is due to an express resolution on the part of the mountain to throw it down. Further scrutiny makes it clear that the mountain does not possess the properties characteristic of life and soul. By slow and steady steps we begin to make in external reality the distinction of objects and selves.

LECTURE VII

IMAGINATION

Nature and Use. The difference between perception and imagination is that in perception we have the actual presence of objects which we do not have in imagination. Perception is cognition so far as it involves the presence of the actual sensation. In this way it is opposed to imagination. It may at once be noted that imagination is not necessarily a later stage than perception, for in perception we have to synthesize images into a sensation or sensations.

Imagination pervades our whole mental life. In every aspect of mental life, be it cognitive, emotional, or volitional, its use is manifest. Scientific advance consists in the explanation of facts, and before a fact is explained we require a hypothesis. Advance in knowledge is essentially hypothetical. We observe the facts which call for an explanation, frame a hypothesis to account for them, and then verify the hypothesis. All hypotheses, though suggested by facts, are born of imagination. They are conjectures or suppositions. Similarly, in aesthetic appreciation, or the feeling of beauty in the fine arts, we have largely to draw upon our imagination. Again, the active side of man's consciousness involves the functioning of imagination. We have to frame for ourselves an ethical ideal, and then take measures to realize that ideal in our life. The moral ideal, before it is embodied in our life, has to be conceived by our imagination. Again, in all practical matters, in framing plans, devising means to ends, we require the exercise of imagination. Every movement, before it is realized, exists in the form of an image in our minds. An anticipatory image is always the precondition of movement. Thus imagination is a very essential function of our mind. It exists in different degrees in all stages of man's life. In childhood, imagination is as free as the

wind. It does not meet with any check, limitation, or objective control. The child revels in ghost stories, fairy tales, and wonder-books. The youth pictures before himself all he wishes to be. It is imagination that enables him to paint his future in roseate colours. The adult makes use of imagination in scientific thought, aesthetic appreciation, and practical life.

Kinds. Imagination is generally considered to be of two kinds, reproductive and productive. Reproductive imagination consists in imaging objects we have already experienced. The images themselves are called memory-images. Productive imagination deals with novel constructions. But its products cannot be completely novel. They are based on the given data out of which new combinations are constructed. Of course, both memory and constructive imagination are necessary for mental growth.

We may, in this connexion, notice the difference generally drawn between a memory-image and an imagination-image. A memory-image is supposed to be more concrete and detailed than an imagination-image, because the memory-image has a corresponding percept. But introspective evidence tells us that memory-images shift and change, flow and flicker, while imagination-images are steady and abiding, concrete and definite. This characteristic of memory-images is not inconsistent with the fact that a memory-image has to stand for a percept. Popular psychology is under the false impression that the image copies or reproduces the percept. It is not so; the function of images is not to copy or reproduce, but stand for or signify. If the image stands for a percept, it is a memory-image; if it stands for a general idea, it is a conceptual image. The unsubstantial nature of memory-images is due to the fact that the memory-images have associations of time and place already formed. They are definite incidents in the individual's past mental history. The images suggest these associations. The imagination-image has no such associations and is therefore steady

and substantial. Introspective investigation tells us that a memory-image has a note of familiarity, while an imagination-image has a tinge of novelty.

Percept and Image. What is the difference between memory-image and percept? The image is less lively, less vivid, less forcible than the percept. The difference between an actual electric shock which sends a thrill through our body, and the cold tame image of an electric shock, is one of vividness and forcibility. Hume says: 'The difference betwixt these consists in the degrees of force and liveliness with which they strike upon the mind. . . . Impressions and ideas resemble in every other particular except their degree of force and vivacity'.[1] The image lacks the aggressiveness with which the percept strikes upon the mind. Again, images are indistinct. The full details which we have in a percept are either obscured or dropped out in the image. The image lacks the details which give the force and fullness to the percept. In this sense the image may be said to be vague, blurred, and indistinct. Percepts are steady and sure. They do not lose their steadiness. They are present so long as the actual object is present to the senses. But images 'flow and flicker'. Our mind generally passes quickly from one image to another. This is why concentration of attention on a single object is such a difficult task. Again, an image is not dependent on bodily movements. You cannot see the dome which is before you, unless you have your eyes wide open. But you can image the object, even if you shut your eyes. In other words, the images do not depend on bodily movements, whereas percepts do. But in spite of all these differences, it is plain that the image resembles the percept in certain essential respects. The differences are differences because there is an identity underlying them. The image is the image of a percept; i. e. percept and image have some qualities in common, while they differ in certain points. Physiological psychology explains it thus. In a percept, as well as

[1] *Treatise*, Book I, Part i, § 1.

in an image, the same cortical centres[1] are excited, but with this difference: in a percept the cortical centres are excited on account of the transmission of some stimulation from the peripheral nerve-endings, but in an image the cortical centres are stimulated on account of some central excitement; i. e. on account of the excitation of another centre in the cortex closely connected with it. It is because the same cortical centres are excited that we find percept and image agree. It is because there is no peripheral excitement in the image, while it is present in the percept, that we find the two differ.

Memory. What is memory? It consists in bringing to your mind the image of an object already experienced. It therefore involves three different factors: *Retention*, *Reproduction*, and *Recognition*. Retentiveness is a fact we arrive at by inference. That we are able to reproduce an idea is evidence of the fact that it must have been somehow retained while we were not making use of it. Retention, the persistence of mental dispositions, is conditioned by sensory factors. It is clearly determined by the state of the nervous system, for, when we are fatigued, we are not able to retain much. The ideal revival in which memory consists will be more or less readily achieved according as our attention has been given to the original experience. Repetition, or the frequency with which an experience has been repeated, is also an important factor. We come to know of retention from reproduction. How does reproduction take

[1] The cortex of the cerebral hemispheres, or thin coat of grey matter which forms the rind of the brain, so determines consciousness that with its removal all spontaneous action ceases. Though animals from which the cerebral cortex has been removed can perform the functions of locomotion and even of nutrition, their actions are all reflex in response to external stimulus, and in no sense deliberate or consciously executed.

In the cortex distinct localization of function obtains. Stimulation of certain definite areas of the cortex results in certain definite actions or sensations. These areas are distinguished as 'motor' and 'sensory', and the destruction of any part of the cortex renders the animal so treated incapable of the actions or sensations governed by the particular area affected.

place? How are ideas reproduced? Two laws are generally given as those which guide and control the reproduction of ideas. They have been called the Laws of Association. But association is only a connexion among dispositions nervous and mental, while reproduction is the actual fact.

Reproduction. The two laws of reproduction are (1) the Law of Contiguity and (2) the Law of Similarity.

Contiguity. Dr. Bain states the Law of Contiguity thus: 'Actions, sensations, and states of feeling, occurring together or in close succession, tend to grow together or cohere, in such a way that, when any one of them is afterwards presented to the mind, the others are apt to be brought up in idea.'[1] This way of stating the law is open to criticism. In the first place, association is not between ideas which are passing states of mind, but it is between objects or, better still, nervous dispositions. Things and their objective properties are associated, and not, as the statement tells us, our sensations and states of feeling. Secondly, the statement suggests that the starting-point of conscious life is a series of isolated units which have to be stuck together by means of association. We first dissect the living whole of experience into the dead particulars, and association is suggested as the gum by which we unite the particulars. The law, to avoid these criticisms, may be stated thus: *parts of one whole suggest each other.* They suggest each other because they have been experienced in close succession. But it must be distinctly understood that what dominates our conscious life is interest. A particular idea need not always bring to our minds the idea that came after it, but may suggest some other idea not contiguously connected with it. It is so because we are interested in the idea suggested. Temporal contiguity, or proximity in time, operates only in conjunction with interest. The primary condition therefore is interest, but, it being the same, contiguity operates.

Similarity. Bain states the Law of Similarity thus:

[1] *The Senses and the Intellect*, 4th ed., p. 341.

Similarity operates in two ways, which are given the names of (1) Association of Similars, and (2) Association by Similars. Reproduction is said to be of similars when the exciting and the suggested ideas resemble each other. When a picture of Lord Minto suggests to me the actual Lord Minto, the reproduction is of similars. Whatever similarity they possess is known only after the reproduction; i.e. after the two things have been brought to our mind. But what operates in bringing Lord Minto is, of course, the partial identity existing between the picture and Lord Minto. But the picture, instead of suggesting Lord Minto, may bring to my mind the post office where I met Lord Minto. But it is unnecessary that here the picture should first suggest Lord Minto and then the post office. Our introspective examination does not tell us of any such passage. The picture at once suggests the post office, and this is a fact we can verify at any one moment by introspective analysis. But even here what operates is similarity or partial identity.

Recognition. The third factor in memory is recognition. Mere reproduction is useless. Recollection is not memory; something more is wanted, and that something is recognition. We must be able to recognize the idea as having been experienced by us previously. It ought to be identified with its associates; it requires some back references. Then alone have we memory.

LECTURE VIII

CONCEPTION

The word conception is used sometimes in a narrower sense and sometimes in a wider sense. In the wider sense it is made coextensive with thought, and thus includes judgement and reasoning as well. In the

narrower sense conception only stands for thought of the universal.

Analysis and Synthesis. Conception is the recognition of the universal as distinguished from the particulars it unifies. Conception is the name of the process which results in concepts or general notions. Concepts are formed by comparison and abstraction. We compare the different objects with a view to finding out the different qualities they possess. We take up the concrete detail of sense-perception and discriminate the different qualities in it. As we compare these with others, we find that certain qualities are possessed in common by them all. We drop out the differences and consolidate the identical qualities into a whole. Here, as elsewhere, the mind works by the methods of analysis and synthesis. We analyse the concrete detail of sense-perception, and select some aspects which we recombine into a new whole.

Conception and Perception. Every fact is an individual existence possessing some properties in common with, and some properties different from, other facts. It is partly the same as and partly different from others. It has a common character which is only realized along with certain differences. In other words, every particular fact is an identity in difference. In conception, we have to bring out the universal, lift the identity from its concrete setting of difference, and mentally grasp the universal notion. We now see how perception and conception are allied. The two differ only in complexity and clearness. In a percept, the universal is found in an obscure and vague mass of difference which is wrapped round it. The two, the universal and the particular, are indistinguishably blended. It requires an effort of mind to discriminate them and hold fast the universal. Conception is thus thinking of the universal by itself. The mere presence of the universal element in cognition does not constitute a concept. In that case, all thought would be conceptual. It is the *recognition* of the universal that is essential for conception. The presence

of the universal and consciousness of that presence are two totally different things. In a percept the universal is present, but in a concept we become conscious of it. But it is also plain that the universal by itself has no objective existence. It is found in reality only along with other certain differences. Hence it is we call conception an intelligible, not a sensible synthesis.

According to the nature of the concept we have here outlined, the distinction between perception and conception is one of degree and not of kind. In a percept the universal is present, but is obscured on account of the differences that surround it. The universal is wrapped up in a mass of particularity. It is an identity hidden, as it were, in difference, but, all the same, it is an identity; but in a concept the identity is removed from its concrete setting and viewed by itself. The identity is distinguished from difference and is held before the mind. Though the identity is present in the percept, we are not able to *recognize* it there, whereas in a concept we become conscious of its existence. In a concept the identity is lifted from the background and brought into the foreground. What is implicitly contained in the percept is explicitly brought out in the concept. The difference, therefore, is one between vague and clear, implicit and explicit. To hold, therefore, that the two differ in *kind* and not *degree*, and that conception gives us universals while perception gives us particulars, is wrong. It is the fallacy of Kant's epistemology to hold that objects as given in perception are purely particular, and have to wait for thought or conception in order to acquire universality. On this view, then, the universality is a characteristic which percepts do not possess, but which we impose on them. The function of thought is to create or produce universality. But according to our view, a percept is an identity in difference, but the identity seems to be lost in the difference. What thought does is to bring out the identity or discover the universal nature in the percepts. The universal nature, then, is *discovered* and *not produced.*

It is lying in the percept and is not born of thought. We do not make all dogs alike, but we find them so. The identity or the universal element is determined *for* us and not *by* us. The universal, therefore, is not superinduced upon the facts as something not possessed by them, thus distorting them. It is something involved in the facts, and it is only after it is found out that we understand the true nature of the facts. The two, perception and conception, are different stages in the development of intelligence, differing only in degree of clearness. In a percept there is the universal element, but we are unaware of it; in a concept we become conscious of it. What is unconscious in the percept is made explicit in the concept.

Concept and Image. What is the relation of an image to a concept? The distinction between the two is one of structure and function. Image is the sensory content, the '*that*', or psychical presentation; while the concept is the outward reference, or meaning, the '*what*', or identical reference indicated by the image. Suppose I say, 'The rose is withered', one of you may have the image of the word 'rose', another the image of its smell, another the image of its appearance, and so on. But these different images enable us all to refer to the same outward object. It is possible for us to pursue the same line of thought in spite of differences in the mental imagery. It is because the function of an image is only to signify or symbolize external reality. Some meaning the image has to convey. The meaning of rose can be conveyed either by the smell-image or the word-image or the visual-image. The function of an image is to signify a meaning, and when an image signifies something, that something is a concept.

It is to be very carefully noted that an image, to stand for, mean, or signify some concept, need not be *like* it. The image will not, and need not, resemble the idea. Every concept is capable of being expressed as a definition. What is the concept of 'rose'? It is a fragrant flower, determinate in structure, but varying in colour

and size. When you think of 'rose', it is not necessary to have in your mind the images of all these different qualities involved in the concept. It is unnecessary, because the function of an image is only to indicate or designate some reality. But some psychologists, including the philosophers Locke and Berkeley, held that images should resemble ideas. Hence they thought that only particular ideas were possible. Obviously there cannot be general ideas. No idea could be at the same time like all the different members of a class. Locke says: 'General ideas are fictions and contrivances of the mind, that carry difficulty with them, and do not so easily offer themselves, as we are apt to imagine. For example, does it not require some pains and skill to form the general idea of a *triangle*, . . . for it must be neither oblique, nor rectangle, neither equilateral, equicrural, nor scalenon; but all and none of these at once.'[1] Locke's conclusion was adopted by Berkeley, and even John Stuart Mill laid down, 'General concepts we have, properly speaking, none; we have only complex ideas of objects in the concrete'.[2] All these writers work on the false assumption that an image to mean an idea should resemble it. But general ideas are impossible because you cannot have general images. There is no reality corresponding to them. There is no object to which you can point and say, this is the essence of 'rose'. Images, therefore, of general ideas, which are no objects in particular, cannot be had. But the principle is false. An image can mean the idea even if it is not like it.

But certain psychologists, insisting on the necessity of general images corresponding to general ideas, advance the theory of generic images. A generic image is an image possessing a distinct centre corresponding to the universal or common properties of a class, with a vague margin corresponding to the specific features of the individuals composing the class. They are like composite photo-

[1] *Essay on Human Understanding*, Book IV, chap. vii, § 9.
[2] *Examination of Hamilton*, chap. xvii.

graphs in which certain features come out strongly, while the differences are left vague. Huxley illustrates it thus: 'When several complex impressions which are more or less different from one another—let us say that out of ten impressions in each, six are the same in all, and four are different from all the rest—are successively presented to the mind, it will be easy to see what will be the nature of the result. The repetition of the six similar impressions will strengthen the six corresponding elements of the complex idea, which will therefore acquire greater vividness; while the four different impressions of each will not only acquire no greater strength than they had at first, but in accordance with the law of association they will all tend to appear at once and will thus neutralize one another.' There are serious objections to this theory. Introspective examination reveals no such generic images. The neural process underlying the formation of such images is hard to conceive. After all, the hypothesis is unnecessary. As far as the function of conception goes, all images, generic or individual, stand on the same level. They both signify something other than themselves. Even supposing we have these generic images, it is not possible to distinguish them from the ordinary images. The hypothesis assumes that our minds are as impartial and as unbiased as photographic cameras, ready to take in all aspects of the object photographed. But if modern psychology tells us anything, it tells us that our minds are biased. Their activity is selective in nature, and dominated by interests.

Besides, it is a well-known fact that it is not possible for us to image all aspects of the object. Some are good visualizers, while some are not. In the power of imaging individuals differ, and this fact is not taken into account by these theorists.

LECTURE IX

CONCEPTION (*continued*)

Judgement and Reasoning. It is not necessary for us to dwell in detail on the processes of judgement and reasoning. Suffice it to note that conception, judgement, and reasoning are all different aspects of mental life. They ought not to be conceived of as distinct acts which can be isolated one from another; nor are they three successive acts. Conception, judgement, and reasoning have been sometimes misrepresented as three successive stages of mental growth; but this is vicious. It is false to hold with Lotze and Jevons that we have apprehension first, judgement next, and reasoning last. Jevons says: 'Simple apprehension is the act of mind by which we merely become aware of something, or have a notion, idea, or impression of it brought into the mind. Judgement is a different action of the mind, and consists in comparing together two notions or ideas of objects derived from simple apprehension, so as to ascertain whether they agree or differ.' Judgement is not a combining of two ideas. Thinking is not a process of mechanically joining part to part. It is a development from within. Apprehension is only possible through judgements about a thing. For instance, let us ask how we get the concept of gold. It is just through the judgements that 'gold is hard', 'gold is heavy', 'gold is malleable', 'gold is yellow'. The concept of gold is the product of these several judgements. A concept, if it is not a mere word devoid of any meaning, must be the product of several judgements, and the greater the number of judgements the concept represents, the more significance it has. A concept, then, is a shorthand expression of a series of judgements. Instead of the judgement being the product of the comparison of the concepts, we find concepts to be the products of judge-

ment. It is in and through judgements that we form concepts.

Inference is not much different from judgement. At the most it is only a completely developed judgement. While a simple judgement asserts something, inference gives the same fact but with its ground. It is reasoned judgement. Inference is merely the judgement explicated. We thus see that simple apprehension, judgement, and reasoning are not three successive stages of mental growth. Mental life is not a psychical staircase where we first have conception, next judgement, and last reasoning. These are different names of the various aspects of the single development of intelligence. All these are different forms of the one intellectual activity, and involve both analysis and synthesis. Take a perceptual experience, 'hot'; out of our present experience we have selected this one aspect. So far there is analysis, but there is also synthesis, because we judge that the present experience is characterized by the predicate 'hot'. The single exclamation 'hot' is a judgement. We there refer the idea 'hot' to the aspect of reality present to us, but the particular aspect of reality is left unspecified. Perception has been said to be unconscious inference. If by inference we mean going beyond given data, perception is an inference, seeing that we go beyond the sense-impression. We have already seen how conception involves both analysis and synthesis. Judgement, again, is both analytic and synthetic. Judgement is the reference of a significant idea to reality. 'The room is hot' is a judgement. The single experience of 'room-hot' is what we have to start with. We analyse or roughly break it up into 'room' and 'hot', and then by synthesis bring together the idea 'hot' and the subject 'room'. The predicate 'hot' is not something flung on the subject from outside, but something which we already find in it by analysis. The predicate-idea is, in a sense, contained in the subject, but prior to the act of judgement we never knew it. In and by means of the judgement the subject notion is

enlarged and developed, and this is an increase to our knowledge. Thus we find all judgements are both analytic and synthetic: analytic because the predicate idea is only an expansion of the subject; synthetic because there has been an expansion which we did not know before the act of judging. Similarly with inference, which is the mental process by which we derive from a given fact something implied in it, but not explicitly known to be there. Let us here confine ourselves to the two standard types of inferences, and see how they are both analytic and synthetic. In deductive inference we bring a particular fact under a general principle. The general principle and the particular fact have been conjoined so as to give rise to a definite conclusion. Unless the two were synthesized, no result would ensue. Thus we find how deductive inference implies synthesis. But in synthesizing a general principle and a particular example we are effecting an analysis of the general principle itself. We draw the general principle into the several details which it unifies. We break up the general principle into the differences in which it is realized. Again, in inductive inference we infer a law from facts by scientific analysis. We take the facts and analyse them so that they may reveal the general principle or the identical element they entail. We analyse the facts with a view to finding out the law or the universal of which they are the expression. But when once this analysis has been made, the several particulars themselves are synthesized. They are fitted with a system; and this is an act of synthesis. Thus we find how the different intellectual processes are of one kind. They involve everywhere both analysis and synthesis.

Thought and Language. The relation of thought to language is generally discussed in this connexion. We have seen that concepts are represented mentally by images. A concept when fully laid out is of the form of a definition. The concept of gold can be expressed thus: gold is a precious metal, malleable, duc-

tile, lustrous, yellow, &c. Images are mental existences which stand for the concepts; they symbolize the meaning. Some kind of image is essential to indicate the concepts referred to. We have already seen that an image, to signify a concept, need not be like it. With different images we may have the same concept, because they all signify the same universal. Of the different images only word-images are free from decay and decline. They do not fade. Hence they came to be used. Language is a system of these word-signs.

Language is of very great help to thought. Thoughts cannot be expressed to others unless there is some medium of communication; words serve this purpose. They are expressive signs. Social intercourse would have been impossible but for some kind of language. The work of society is also helped by language. It is that which enables us to understand the progress of thought in the previous ages. The work our predecessors have done we need not do over again. On the basis of their work we may proceed to make further advances.

Even language, which is a system of word-signs, involves both analysis and synthesis. If we take any sentence like 'John eats', we find we have analysed the present experience into the two universals, 'John' and 'eating'. 'John' is a universal inasmuch as it can apply to John eating, John drinking, John dressing, &c. Similarly, 'eating' is a universal, because it can apply to the eating of *X*, *Y*, or *Z*. The two universals limit each other as they are synthesized. They give rise to a definite meaning so soon as they are conjoined. Among savages and primitive races there is a system of expressive signs, but they are not word-symbols. Expression of thought is carried on by means of imitative gestures. The thought 'I am hungry' is expressed to my friend by my raising the hand to the mouth. We imitate the kind of action we mean. Between the sign and the thing signified there is a resemblance which is absent with regard to words. Between the word 'eat' and the process of eating there is nothing in common.

Words are purely conventional, while gestures are based on resemblance. But a system of these signs is defective in several ways. They do not serve their purpose at all times. Our gestures cannot be understood in the dark. Highly complex notions, like teleology or democracy, cannot be so represented. Even general notions like 'take', 'make', cannot be expressed by means of these gestures. These imitative gestures cannot be rapidly and easily produced. Not unusually, these gestures are of doubtful reference. Raising my hand to my mouth may mean either 'I am hungry', or 'I am thirsty', or 'Are you hungry?' or 'I have just had my meal.' Its exact significance is not plain at the outset. These gestures, therefore, as they represent only the broad features, may apply to an indefinite number of things.

LECTURE X

FEELING

Nature of Feeling. Consciousness is always concerned with some object. This relation to the object has three different aspects: (1) we cognize the object; (2) we are pleased or displeased with it; (3) we like to alter or maintain it. These three features are present in any concrete state of consciousness. We have, till now, been engaging ourselves with the cognitive aspect of mental life. We have now to look at feeling.

Feeling is the affective, as cognition is the intellectual side of consciousness. Feeling varies in two directions, viz. pleasure and pain. At any moment of our conscious life we are either pleased or not pleased, but never is our attitude neutral. Wundt holds that there are neutral states. A state which is pleasant to start with ends by being unpleasant. It must therefore have passed through a stage which was neither pleasant nor

unpleasant. Wundt compares such neutral states to the point in a curve which lies on a line bisecting it. But this kind of mathematical analogy is out of place in psychical states. We are always in some way affected. It is a pertinent question to ask whether there are other kinds of feeling than pleasure and pain. Professor Royce, for example, gives the following as the ultimate modes of feeling besides pleasure and pain: depression and excitement, tension and relief; but these, on ultimate analysis, turn out to be different forms of pleasure and pain.

Again, it is said that there are qualities of pleasure and pain. But pleasure and pain themselves are qualities of our mental states, and there cannot be a quality of a quality. But writers like John Stuart Mill hold that there are qualities of pleasure and pain. They confuse the pure feeling of pleasure, which is an abstraction and as such cannot have qualities, with the objects in connexion with which pleasure arises. The so-called quality of feeling is thus due to the cognition accompanying the feeling. There are thus as many qualities as there are mental states. There is the pleasure of poetry, of music, of fishing, &c.; but if by feeling we mean the pure state of feeling, it cannot have qualities.

Feeling and Activity. The really important question with regard to feeling is its relation to activity. The plain common sense answer is that pleasure is the accompaniment of successful activity, while pain is that of unsuccessful activity. Man's life is one of continuous activity. He always strives to attain some end or other. To attain his aims he devises means and strives his best to realize them. If his activity towards the attainment of the end is free, progressive, and successful, he has pleasure; if not, he has pain. This view of the relation between feeling and activity is, in the main, supported by the leading psychologists. 'The antithesis between pleasure and pain', says Dr. Stout, 'is coincident with the antithesis between free and impeded progress towards an end. Unimpeded progress is pleasant in

proportion to the intensity and complexity of mental excitement. An activity which is thwarted or retarded either by the presence of positive obstruction, or by the absence of co-operative conditions, or in any other conceivable way, is painful in proportion to its intensity and complexity, and to the degree of the hindrance.'[1] Much the same view is expressed by Professor Ward, who makes attention synonymous with mental activity. 'There is pleasure according as a maximum of attention is effectively exercised, and pain in proportion as such effective attention is frustrated by distractions, shocks, or incomplete and faulty adaptations, or fails of exercise owing to the narrowness of the field of consciousness and the slowness and the smallness of the changes.'[2]

But at times other views regarding the relation between feeling and activity are given. It is sometimes said that all activity is determined by feeling. According to this, all our striving has for its end the attainment of pleasure or the avoidance of pain. Pleasure is considered the end of desire. This view is the famous doctrine of psychological hedonism. To all this the psychologist has only one answer to give, that his introspection does not tell him that it is pleasure he chooses, but a concrete end in and for itself, and not on account of the pleasure it brings. He would like to have that end even if it should be accompanied by pain. Apart from the objection that it makes a science of ethics impossible, we find it is psychologically not true. Our introspection shows that we aim at objects and not at the feeling of pleasure. We generally desire some concrete end and not the pure abstract feeling. But to this it may be replied, we are forced to choose some end and not pleasure, because pleasure by itself does not exist. It always arises in connexion with the attainment of some end. Though the real end is pleasure, on account what is known as the paradox of hedonism we have to forget it. If we hold pleasure

[1] *Analytic Psychology*, vol. ii, p. 270. [2] Article 'Psychology'.

prominently in our view, we miss it. To secure it the most successful device is to desire an object. Thus, attention focuses itself on an object, and not on a pleasure, though the latter constitutes the true end. What we desire, therefore, is an object and not feeling. Why do we desire the object? Because it satisfies some craving of our self. That it satisfies some want is the explanation of choice, and not that it affords pleasure. Pleasure may occur at the end, but it never determines our choice.

It is sometimes said that all activity is prompted by feeling. Though feeling is not the final cause or end of choice, it is still the efficient cause. Pleasure, though not the end of choice, is still the impelling power. It is the moving idea. Though it is not the end inducing, still it is the motive impelling. Pleasure, then, is the dynamic of choice. All activity is feeling-impelled and feeling-prompted. This view is represented by Professor James Seth in his *Ethical Principles*.[1] The theory embraces an important truth, that unless the end attracts us we shall not choose it. For an end to be chosen, it is necessary for it to interest us. That which makes us choose this, and not any other end, is the interest we take in it. In this sense it is said that pleasure is the moving idea or the impelling force. But it is wrong to break up the unity of subject self into feeling as the cause, and choice as the effect. It is no explanation of choice to point out that it is actuated by feeling. How can feeling be the cause in acts where the choice is the most unpleasant? Why do martyrs lay down their lives? Is it a very pleasant choice? Why do men commit suicide? Why does not the horror of the act deter men from performing it? There are thus acts which are most unpleasant—when we deliberately drive a thorn into our flesh. Such activity cannot be prompted by feeling. The explanation of such acts can be got only by taking into account our whole self as it is constituted, including the mental dispositions inherited and acquired.

[1] *Ethical Principles*, chap. iii.

The previous mental history has something to do with every act of choice. The whole self is the cause, if we allow ourselves to make use of a mechanical category like cause. Feeling is only an element of choice, not its cause or explanation.

Theories of Feeling. In this connexion it is usual to discuss some physiological and psychophysical theories. Pleasure and pain, according to Bain, are concomitant with the increase and abatement of vital functions. The theory does not stand examination. Why is music pleasant? Does a heightening of vital functions accompany it? Why, again, is taking medicine unpleasant? Does it occasion the abatement of vital functions? Again, there is no proportion between the intensity of pleasure and pain and the magnitude of the heightening or the abatement of the vital functions. Against the theory that pleasure is the concomitant of increased vitality, Dr. Martineau states, 'The formula which identifies "pleasure-giving" and "health-promoting" cannot be admitted as true; for though there is a small central interval where the qualities are found together, they soon begin to vary inversely as each other. And this is in accordance with the common sense and observation of mankind. No people are regarded with more general distrust, or more sharply scrutinized by the life-assurance officers, than the pleasure-seekers.'[1]

Dr. Marshall, in his *Pleasure, Pain, and Aesthetics*, lays stress on the building up of tissue during periods of functional repose. 'Pleasure is experienced whenever the physical activity coincident with the psychic state to which the pleasure is attached involves the use of surplus stored force. Pain is experienced whenever the physical action which determines the content is so related to the supply of nutriment to its organ that the energy involved in its reaction to the stimulus is less in amount than the energy which the stimulus habitually calls forth.'[2] In other words, if wear outruns repair, the

[1] *Types*, vol. ii, p. 351. [2] p. 171.

experience is unpleasant; in the opposite case it is pleasant. Everyday experience seems to support this view. When we are exhausted, our experiences are unpleasant, whereas they are agreeable when we are fresh. But on this theory it is impossible to account for the pleasantness of sugar and the unpleasantness of salt. It does not appear that salt much more than sugar calls forth expenditure of surplus energy. There are so many difficulties incident to an analogy which compares our body to a reservoir of nervous energy; we can never tell when there is a surplus of stored energy and when not. The theory cannot at all account for those innumerable cases when we are pleased if we hit the mark, and not pleased when we miss it.

According to Herbert Spencer, pleasure is the concomitant of life-promoting activities, while pain is the concomitant of life-destroying activities. At the outset the theory does not tell us if it is the life of the race or of the individual that is in question. Whether or no sexual activity promotes the life of the individual is not definitely agreed. It does promote the life of the race. Again, there does not seem to be any proportion between the intensity of the pain and the magnitude of the vital affection. Consider toothache, a trivial matter when compared to grave attacks on life; but still, judged by the amount of pain it gives, it ought to end life at once.

LECTURE XI

EMOTIONS

Nature of Emotion and its relation to Expression. Emotions are complex mental states with the feeling element in a predominant degree aroused, generally, by the perception of objects which affect our conative

tendencies. As soon as an object is perceived to affect our interest, we have emotion, and others are able to infer its existence from its outward expression. There is an expression for every emotion. This expression complicates the nature of the emotion by sending back organic and kinaesthetic sensations. That every emotion has its expression may be illustrated by an analysis of 'fear'. Charles Darwin gives the following account of the bodily symptoms of fear: 'The eyes and mouth are widely opened and the eyebrows raised. The frightened man at first stands like a statue motionless and breathless, or crouches down as if instinctively to escape observation. The heart beats quickly and violently, so that it palpitates or knocks against the ribs. . . . The hairs also on the skin stand erect; and the superficial muscles shiver . . . the breathing is hurried . . . the mouth becomes dry.'[1] In every emotion we have the perception of a total situation which affects a man's conative tendencies, a feeling of pleasure or pain, bodily expression, and lastly organic sensations. These are the factors involved in a state of emotion. As far as the mental side is concerned we have:

(1) Perception of an object.
(2) Intense feeling.
(3) Organic sensations.

We thus see how the organic sensations constitute an element in an emotion. But some psychologists are of opinion that emotion and organic sensation are identical. This is the view held by James and Lange.

Professor James's Theory. Professor James seems to think that the expression is not merely the essential constituent, but the whole of the emotion. What we have at the start is the expression which sends back kinaesthetic and organic sensations which constitute the emotion. The feeling of the bodily changes is the emotion. While common sense holds that the emotion precedes and produces the expression, James holds that the expression causes the emotion. He says: 'The bodily changes

[1] *Expression of the Emotions*, 2nd ed., chap. xii.

follow directly the perception of the exciting fact, and our feeling of the same changes as they occur *is* the emotion. Common-sense says, we lose our fortune, are sorry and weep; we meet a bear, are frightened and run; we are insulted by a rival, are angry and strike. The hypothesis here to be defended says that this order of sequence is incorrect, that the one mental state is not immediately induced by the other, that the bodily manifestations must first be interposed between, and that the more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike, or tremble because we are sorry, angry, or fearful, as the case may be.'[1] Emotions, then, are sensational processes due to inward currents set up by physical changes. When we are struck by an external impression, instead of the latter arousing an emotion, it determines various reflex phenomena which in their turn produce an emotion. The following are some of the arguments by which Professor James supports his theory:

i. 'If we fancy some strong emotion, and then try to abstract from our consciousness of it all the feelings of its bodily symptoms, we find we have nothing left behind, no "mind-stuff" out of which the emotion can be constituted, and that a cold and neutral state of intellectual perception is all that remains. . . . What kind of an emotion of fear would be left if the feeling neither of quickened heart-beats nor of shallow breathing, neither of trembling lips nor of weakened limbs, neither of goose-flesh nor of visceral stirrings, were present, it is quite impossible for me to think.'[2]

Admitting the fact that an emotion cannot exist without its expression, it does not follow that the emotion and the expression are identical. There can be no smoke without fire, no thought without words. But it does not mean that smoke is fire, and that thought is words. The two are inseparable, but not identical.

[1] *Principles*, vol. ii, pp. 449–50.
[2] Ibid., pp. 451–2.

ii. If you put on the expression, the corresponding emotion results. You can bring about the emotion by mechanically performing the actions characteristic of it. James says: 'Whistling to keep up courage is no mere figure of speech. On the other hand, sit all day in a moping posture, sigh, and reply to everything with a dismal voice, and your melancholy lingers.'[1]

But it is also true that we do not always have courage at the bidding of a whistle. Were it so, the world would indeed be happier than it is. There are, as Professor James knows, actors who can ably simulate an emotion and be inwardly cold. They can keep their calm and peace of mind even when they pretend to cry. Of course there are some actors who enter into the spirit of the parts they represent and inwardly possess the emotion characteristic of the expression. But this can be accounted for by mental association. Emotion and organic sensation have been parts of one complex state, so that when a part in the organic sensation occurs, the emotion results.

iii. Another argument which Professor James brings in support of his theory is that there are pathological cases where an emotion arises without any object. According to him the nervous centres of the organic sensations are excited, and they bring about the emotion. We have already seen how association can account for the rise of the emotion whenever we have the corresponding organic sensations or images.

We thus see that the arguments of Professor James will not stand examination. There are serious criticisms to be brought against the theory.

i. According to James the expression arises in immediate response to an external stimulus; the preorganized nervous mechanism gives rise to certain movements as soon as it is excited by an external object. The expression occasions the bodily feeling which we call the emotion. But there is this difficulty, that, unless

[1] *Principles*, vol. ii, p. 463.

we perceive the object and find that it thwarts our cherished desires, we do not have an emotion. The mere mention of the word 'rogue' does not affect us, though we become enraged if we understand that the word is used of us. The stimulus is the same in both the cases, but in the latter case it has been apperceived by us. Whether an emotion arises or not depends on the total situation. The emotion does not arise unless the perceived object thwarts our conative tendencies. Professor Ward says: 'Let Professor James be confronted first by a chained bear and next by a bear at large: to the one object he presents a bun, and to the other a clean pair of heels.'[1]

ii. If organic sensation is an emotion, it is hard for us to make a distinction between those organic sensations which are emotions and those which are not. Stomach-ache, which is an organic sensation, is not an emotion. What is it that transforms an organic sensation into an emotion?

iii. Again, if emotion be only the reflection of the expression, then the same emotion must have the same expression, and the same expression must occasion the same emotion. In a state of anger, sometimes our face reddens, while at other times it pales. We weep in joy as well as in sorrow. It is hard to reconcile these facts with Professor James's theory.

iv. If the expression is the same as the emotion, then the intensity of the emotion should be proportioned to the magnitude of the expression. But, often, great outward excitement is not indicative of intense emotion. Our internal emotion may be violent, but it may not express itself. Great sorrows, it is said, are dumb.

v. Lastly, many of our fine emotions, religious, say, or intellectual, do not have any expression. All these collectively make out a conclusive case against Professor James's theory. We have, therefore, an emotion first, and then the expression results. But the theory is true so

[1] Article 'Psychology', *Encyclopaedia Britannica*, vol. xxxii, 10th ed., p. 65.

far as it means that the expression complicates the emotion. An emotion becomes rich and varied in content if there is great expression. Expression, therefore, contributes to the development, and not to the origin of an emotion. It is also true that we can put down the emotion if we stifle the expression. The best way, therefore, to suppress emotions is never to allow them an opportunity to express themselves.

LECTURE XII

VOLUNTARY ACTION

Voluntary and Involuntary Activity. 'Will' is used in two different senses. It is sometimes made synonymous with the whole active side of conscious life, in which case it includes both voluntary and involuntary activity. It becomes one of the three ultimate factors of mind,—represents a general characteristic of mental life. Throughout our mental life some conative tendency is striving to realize itself. But sometimes 'will' is used in a narrower sense. It then signifies the psychical antecedents of deliberate action. Action adopted with a conscious purpose to act constitutes volitional action in this narrower sense. Volitional or voluntary action is a part of the active side of consciousness. All consciousness is motor. Every item of consciousness has a motor effect. The functional unit of the nervous system is a sensory motor arc. Every state of consciousness, therefore, culminates in some kind of movement or activity. Voluntary action in the narrower sense presupposes involuntary activity. In voluntary action we propose deliberately to do a thing. For the realization of such a purposive action we must be able to execute movements. The several involuntary movements should have left behind them traces or dispositions. The images

of these movements are necessary for purposive action. We can will an act only if we have done the act before and so have experienced the nature of it. All that the will does is to select and modify the nature of the movements. That movements occur is the ultimate fact presupposed by voluntary action. Höffding says: 'The involuntary activity forms the basis and content of the voluntary. The will is in no way creative, but only modifying and selective.' As Professor James would say: 'A supply of ideas of various movements that are possible left in the memory by experiences of their involuntary performance is the first prerequisite of the voluntary life.'[1] Thus it is plain that voluntary movements are secondary and not primary.

Forms of Involuntary Activity. We may here see what the several forms of involuntary activity are.

i. Reflex actions, which are not generally accompanied by consciousness. They are beyond the control of the will. The beating of the heart and the closing of the eyelids are examples. These are purely physiological.

ii. Sensori-motor acts are partly conscious, though they do not involve will. They take place in response to external stimulus. A child sees a bright flame, and tries to grasp it. Such acts, which in response to an external impression find immediate expression in bodily movement, are called impulsive.

iii. Instinctive acts are more complex in their nature than either i. or ii. They imply a previous nervous organization. They have their source not in an external stimulus but in the nervous centres themselves. They are activities tending towards an end of which we are not at the time aware. They have been defined as 'congenitally organized dispositions'.

iv. These different forms of movement leave behind them traces which, when excited, give rise to kinaesthetic images. Generally, when we have a kinaesthetic image, the corresponding movement ensues. Such acts, where

[1] *Principles*, vol. ii, p. 488.

the movement ensues unhesitatingly and immediately on the presence of the idea, are called ideomotor activities. As Professor James says: 'We are aware of nothing between the conception and the execution. We think the act and it is done.' It is a familiar experience that we move our lips in thinking. It is an ideomotor activity. These primary movements and their backward currents are vague and diffuse, and will has to select and make definite what is obscurely present there.

The several forms of involuntary activity we have studied do not imply the exercise of volition. The necessity for deliberate action arises only when another idea, antagonistic to the one present to the mind, comes on the stage. Unless we have two or more ideas competing for the mastery, we do not have any need for will. The requisite condition for voluntary action is the presence of two or more alternative possibilities soliciting the attention. It is only then that we have to choose the one and reject the others. When there is no conflicting idea there is no necessity for deliberation, as the one idea dominating our consciousness passes into movement. Volition is the name of that mental activity, when we deliberate on the different courses possible under the circumstances, weigh the *pros* and *cons* of the different possibilities, and choose the one which agrees best with our ideals.

Deliberation. Volition thus includes deliberation and choice or decision. Deliberation is the process whereby we determine the worth of the different ideas conflicting with each other. We compare and criticize the different possibilities, and discuss the relations of the several alternatives to the self as a whole, as a result of which decision emerges. We fix upon one idea, which may be a modification of the several conflicting possibilities, or any one of them by itself. But at the stage of decision there is only that idea present to our mind, and it is at once realized. In this sense, we may say, even deliberate action is a kind of ideomotor activity.

At the level of choice we have only one idea present, and that idea is realized. Should there be more than one idea present to the mind, we have to deliberate on the situation till all but one are dismissed from view.

The essential function of the will is to attend to a given idea and hold it fast before the mind. Says Professor James, 'To will a given act is to think attentively of that act to the exclusion or neglect of the representation or imagining of any and all other acts'. Thus we see that volition is merely the holding of one idea to the exclusion of others which appeal to us. What holds our attention determines action, and this is the case in every form of activity, instinctive, emotional, or ideomotor. With the emergence of decision conflict ceases.

Self-determination. It may appear from all this that will is determined by means of ideas. That ideas have a kind of motor force, that they arrest our attention, and that then the activity ensues, may appear to be the true account of the case. On this view our will is merely a puppet which moves as our ideas dictate. But a closer examination reveals to us that we attend to an idea not because the idea has got any force by itself, but because we are interested in the idea. The idea holds the attention because it gives us interest. At the stage of decision we hold a particular idea in attention and exclude the rest, because the idea has been reinforced by the self's identification with the idea. The idea chosen in the stage of deliberation was only one amongst several floating possibilities, any one of which we were free to select. But after we have deliberated on the different ideas, we find that our self's interests and purposes will be best promoted by the adoption of one particular idea. Self, therefore, identifies itself with the idea resolved upon, and that is why the other ideas are excluded. This one idea completely holds our attention and is realized. If the idea takes such a complete hold of our attention as to become a movement in spite of

ourselves, then we are merely puppets, our action is not free. Such is the nature of actions done in hypnotic trances or under the influence of opium or alcohol. In such cases we are not free agents, but in deliberate action we choose the idea, allow it to attract us. The right way of stating the case of voluntary action is to say that attention holds the idea, and not that idea holds the attention; for if the idea could hold our attention, there is no necessity for deliberation. Prior to the act of deliberation, the idea never held the attention. This is enough to indicate how, in the process of deliberation, the self is able to recognize the idea as a possibility the adoption of which would tend to the realization of the ideal of self; how that idea would fit in harmoniously with the system of desires which is the expression of the self. It is then that we attend to the idea. Whatever force the idea has, it has because of the relation it bears to the self; i.e. the strength of the idea is determined by the self which sits in judgement over it. Our self therefore determines the act. In the process of deliberation we recognize that the act may be adopted. Thus we see how all our acts are self-determined and the highest kind of freedom is self-determination.

Choice stops with the prevalence of the idea chosen. The nervous organization has to carry it out. If, on account of some disorder in the nervous system, the movement does not take place, we ought not to say we did not will the movement. There had been a volition which was rendered impossible by an external force. Volition is merely the conscious antecedent of the act.

LECTURE XIII

ATTENTION

Nature of Attention. In psychology the word attention is used in two different senses. It is sometimes made synonymous with the whole active side of consciousness. Compare Professor James Ward's statement, 'Attention is mental activity'. In this sense attention is a general characteristic of consciousness. In common parlance attention is said to be the degree of greatest consciousness. But sometimes attention means concentration of consciousness on an object. But in any sense attention is not an occasional phenomenon. As long as we are conscious, we are attending to something or other. When I say you are inattentive, all that I mean is, you are not just now attending to what I am expounding, but to something else, a cricket match, or your friends at home. You are attending to something.

The first point to be noted about this narrower conception of attention is that it is selective in its nature. At this moment so many impressions are being made on your sense organs. The roar of the sea, the odour of flowers, the murmur of the wind, the noise from the next room, the lights and shades inside the room and out, all are operating on your psychophysical organism; but you are attending only to what I say. Your attention, therefore, has picked and selected this particular aspect of your presentation continuum. What we attend to is what we have an interest in. Interest, therefore, determines attention.

Attention cannot be fixed on one object, unless the object develops, or shows new aspects. We say we attend to the rose; but what we do is to attend, first to the colour, next to the smell, next to the shape and petals, and soon. We cannot attend to all of them simultaneously.

Varieties of Attention. There are several varieties of attention commonly recognized. Attention, firstly, is said to be of two types, active and passive. But this distinction is bad, seeing that attention is activity and there cannot be passive activity. What is meant is that attention is voluntary or non-voluntary. In voluntary attention, the object you attend to is determined by you, while it is not so in non-voluntary attention. You attend to what I say. Attention, here, is active; it is voluntary as it is exercised by an act of will. But if you hear the detonation of a gun, your attention is passive, as it is drawn by the force and intensity of the sound; it is non-voluntary, as it is independent of the will. Your attention is non-voluntary also in the case where it is drawn, say, by a slight tap at the door. The sound is not intense, not forcible; you did not hear it deliberately. But your attention is drawn by the tap, as it is a prearranged signal made by a friend. Attention is here solicited by the interest you take in the object. But there are objects to which we attend in spite of a decision against it. You do not want to think of a friend who has just passed away, but still the idea now and again troubles you, and disturbs your mind in spite of your will to the contrary. Such attention is involuntary. Attention is sometimes characterized as sensory and ideational. This distinction is based on the very simple principle of the nature of the object we attend to. If the object is sensibly present, attention is sensory. If it is a mental state, attention is ideational.

Effects of Attention. What are the effects of attention? It gives us a clearer apprehension of the object we attend to; we gain a clear understanding of the different details constitutive of the object. It is the process we make use of throughout our intellectual life, and by means of it we are able to discriminate the vague mass of sensations into the distinct details of knowledge. Attention is an aid to retention. Only objects attended to are capable of being remembered.

CONCLUSION

We have come to the end of our subject. We have seen throughout how the several factors, which we looked at in the abstract for purposes of exposition and treatment, really interpenetrate. Man's mental life does not consist in three parallel lives of knowing, feeling, and volition, but is one in which all these cross and recross. It is truly said that a 'man is blind without knowing, inert without feeling, and is a slave without the element of volition'. The ideal man is one in whom all three sides are harmoniously developed. Knowledge, love, and efficiency are equally important.

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